FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Third Semester BA Degree Examination, November 2016
ECO3C04 - Mathematical Tools for Economics III

(2015 Admission onwards)

Max. Time: 1.5 hours   Max. Marks: 40

PART A Answer *all* questions

A-Multiple Choice Questions

1. Evaluate $\lim_{x \to 1} \dfrac{x-1}{x+1}$

   a) 0   b) 1   c) 2   d) 4

2. $Z = XY$, second order cross partial derivative of the function is

   a) 1   b) y   c) 0   d) x

3. A function is maximum when its second derivative is

   a) constant   b) rising   c) zero   d) falling

4. In Monopoly when MR = 0, price elasticity is

   a) 1   b) <1   c) 0   d) >1

5. On a straight line demand curve, elasticity of demand at midpoint of the curve is

   a) 0   b) >1   c) 1   d) <1

6. A firm finds that the total cost of producing 9 units of output is 95. The average cost of producing 10 units of output is 10. This means the marginal cost at this level of output is

   a) 1   b) 10   c) 5   d) 9

   (6×1/2=3 Marks)

Part B (Very Short Answer Type Questions)
Answer *any 6* questions

7. For the demand and supply function, Qd = 10-P, Qs = 3P-2, obtain equilibrium price and quantity.

8. Derive the first and second order condition for cost minimisation.

9. Find the second order derivative of the function $z = x^3 - y^3$

10. Find dp/dq , if $q = \dfrac{1}{2}\sqrt{P}$

11. Given the demand, $Q = 100 - 2P - 2P^2$, calculate price elasticity of demand at P = 10

12. Find the relative extrema of the function $y = 10x - x^2$

13. Evaluate $\lim_{x \to -4} \dfrac{x-4}{x^2 - x - 12}$

14. Explain the concept of convexity and concavity with suitable example

   (6 ×2 = 12 Marks)

Part C (Short Essay)
Answer *any three* questions

15. Find the second order derivatives for the following function
    a) $Z = x^2 + y^2$ b) $Z = x^2 y^2$

16. Differentiate   a) $Y = \dfrac{x^2 + 6x - 2}{x^2 - 1}$

          b) $y = (4x + 5)^5$

17. Distinguish between implicit and explicit function with suitable examples

18. Sketch the graph of the function $Y^2 = x^3 + x + 9$

   (3×5=15 Marks)

Part D (Essay Questions)
Answer any *one* of the following questions

19. State the important rules of differentiation with suitable example

20. A firm has the following demand and the cost function, $P = 150 - 0.5q$

    $TC = 100 + 3q + 7q^2$,

    Find (a) the revenue maximising output

    (b) the profit maximising output

    (c) output that minimises the average cost

   (1×10=10 Marks)

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FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE
Third Semester BA Degree Examination, November 2016
ECO3B04 - Modern Banking and Insurance
(2015 Admission onwards)

Max. Time: 3 hours

Max. Marks: 80

PART A
Answer All Questions. Each question carries ½ marks

Multiple choice questions

1. Who is the current Governor of Reserve Bank of India?
   a) Raghuram Rajan　　　　　b) Urjit Patel
   c) D. Subbarao　　　　　　　d) Y.V. Reddy
2. Which of the following bank enjoyed the status of largest private sector bank of India?
   a) ICICI　　　　　　　　　　b) HDFC
   c) South Indian Bank　　　　　d) Axis Bank
3. The head quarter of LIC is located at:
   a) Hyderabad　　　　　　　　b) Calcutta
   c) New Delhi　　　　　　　　d) Mumbai
4. Which of the following is/are belonged to money market instruments?
   a) Treasury Bill　　　　　　　b) Debenture
   c) Share　　　　　　　　　　d) All of the above

Fill in the blanks

5. Money market generally deals with the instruments having the maturity period of.........
6. ....symbolizes the convergence of banking and insurance.
7. -------------- is a mechanism in which one insurance company transfers all or a portion of its risk under an insurance policy to another company
8. The accumulated value of an insurance policy is known as --------------

Answer in a word or sentence

9. RTGS
10. The first development bank in India is:
11. Expand ATM
12. Which is the largest Reinsurance institution in India?

(12x1/2= 6 Marks)

PART B
Very short answer questions - Answer any 10. Each question carries 2 marks.
13. What do you meant by health insurance?
14. Commercial Paper.
15. Consortium Banking.
16. Define Capital Adequacy Ratio (CAR).
17. How can you define risk management?
18. What do you meant by EFTS?
19. What is social banking?
20. What is burglary insurance?
21. What is term insurance?
22. Mixed banking.
23. What do you meant by the process of risk avoidance?
24. Marginal Standing Facility (MSF).

(10x2= 20 Marks)

PART C
Short Essay Type Questions - Answer Any 6 Questions. Each question carries 5 marks.

25. Briefly explain the objectives and functions of IRDA?
26. What are the major selective credit control techniques generally adopted by RBI to regulate inflation and deflation?
27. How can you distinguish risk from uncertainty? Illustrate the major types of risks?
28. What is motor insurance? Explain the procedures for settling insurance claims in the case of motor insurance.
29. Define insurance. Can you distinguish between life insurance and non-life insurance policies?
30. What are the role and functions of IDBI as development bank of India?
31. What is banking ombudsman? Enumerate the objectives of banking ombudsman in a country like India?
32. How can you define a bank? Explain briefly the evolution of banking system in India.

(6x5= 30 Marks)

PART D
Essay Type Questions- Answer Any 2 Questions. Each question carries 12 marks

33. Bring out the salient features of Reserve Bank of India (RBI) and its structure? Discuss the important functions of central bank with special reference to RBI.
34. What is risk management? What are the major objectives and elements of risk management?
35. Trace out the origin and structure of insurance industry of India. Discuss the role played by insurance sector in the socio-economic development of India.
36. What is non-performing assets (NPAs)? Critically examine the measures taken by the Government of India and RBI to address the issue of growing NPAs of banks?

(2x12= 24 Marks)

Name: ………………………

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Third Semester BA Degree Examination, November 2016

ECO3B03 - Quantitative Method for Economic Analysis

(2015 Admission onwards)

Max. Time: 3 hours   Max. Marks: 80

Part A

Answer All Question

Each question carries a weightage of ½ Mark

A-Multiple Choice:

1. The decimal part of the logarithm is called…………
   - (a) Characteristics
   - (b) Mantissa
   - (c) Common logarithm
   - (d) Natural logarithm

2. …………… is a statement of equality between two expressions.
   - (a) Equation
   - (b) Identity
   - (c) Determinant
   - (d) Matrix

3. $\dfrac{x^m}{x^{-m}} = $…………
   - (a) 1
   - (b) -1
   - (c) x^{2m}
   - (d) x^0

4. The value of $\begin{vmatrix} 3 & -2 \\ 2 & 4 \end{vmatrix}$ is
   - (a) 8
   - (b) -16
   - (c) 16
   - (d) -8

5. Equation of a straight line is………………
   - (a) $y = mx + c$
   - (b) $y = ax^2 + bx + c$
   - (c) $y = x^2$
   - (d) $y = x^3$

6. $Q_3 - Q_1$ is called……………..
   - (a) Mean Deviation
   - (b) Inter Quartile range
   - (c) Gini Coefficient
   - (d) Standard deviation

7. ……………… is a graphic method of studying dispersion in a series.
   - (a) Lorenz curve
   - (b) Ogives
   - (c) Histogram
   - (d) Pie diagram

8. Median is a ………………
   - (a) Positional average
   - (b) Mathematical average
   - (c) Measure of variability
   - (d) None of the above

9. When a frequency curve is more peaked than the normal curve it is called………………
   - (a) Leptokurtic
   - (b) Platykurtic
   - (c) Mesokurtic
   - (d) None of the above

10. The value of Gini coefficient is
    - (a) +1 to -1
    - (b) 0 to 1
    - (c) -1 to 0
    - (d) 0 to infinity

11. The correlation coefficient measures
    - (a) Variability
    - (b) Location
    - (c) Concentration
    - (d) Relation

12. When there are only two variables the regression equation obtained is called
    - (a) Simple regression equation
    - (b) Multiple regression equation
    - (c) Line of best fit
    - (d) none of the above

(12 x ½ = 6 marks)

Part B

Answer any 10 questions

Each question carries 2 mark

13. Solve $3^{x+3} = 9^{2x+1}$

14. Solve the equation $x^2 - 4x + 3 = 0$.

15. Show that $\begin{bmatrix} 5 & 7 & 2 \\ 2 & 3 & 1 \\ 4 & 6 & 2 \end{bmatrix}$ is singular.

16. Express the equation $3x+4y-2=0$ in the slope form and hence find the value of the slope and y-intercept

17. Difference between frequency polygon and frequency curve.

18. What are the essential properties of a good average?

19. Calculate median for the following values : 35,23,45,50,80,61,92,40,52,61

20. Why is Standard Deviation considered to be the best measure of dispersion?

21. A cyclist pedals from his house to college at a speed of 10 K.M.p.h and back from the college to his house at 12 K.M.p.h. Find the average speed.

22. List out the various measures of Central tendency and Dispersion.

23. What are the properties of correlation coefficient?

24. What are the merits and demerits of Geometric Mean?

(10 x 2 = 20 marks)

Part C

Answer any six questions

All questions carries 5 mark

25. What are the important properties of a determinant?

26. Find the inverse of A Where $A = \begin{bmatrix} 3 & 5 & 7 \\ 2 & -3 & 1 \\ 1 & 1 & 2 \end{bmatrix}$

27. Demand for goods of an industry is given by the equation pq =100 and supply is given by the equation q=20+3 where 'p' is the price and 'q' is the quantity, find 'p' and 'q'

28. Solve the following equation

    $x + 9y - z - 4 = 0$

    $2x + 7y + 3z - 7 = 0$

    $3x + 10y + 4z = 9$

29. Calculate Standard Deviation and the Coefficient Variation from the following data.

Class	0-5	5-10	10-15	15-20	20-25	25-30
Frequency	6	8	10	15	12	9

30. Draw Ogive curves for the following data and find out the median?

Class	10-20	20-30	30-40	40-50	50-60
Frequency	5	10	18	12	5

31. Find Mean, Median and Mode from the following data.

Marks	0-10	10-20	20-30	30-40	40-50	50-60	60-70
No. of students	3	10	15	20	12	7	3

32. Explain the various methods of studying correlation.

(6 x 5 = 30)

Part D

Answer any two questions

Each questions carries 12

33. Solve using Cramer's rule

    $5x - 6y + 4z = 15$

    $7x + 4y - 3z = 19$

    $2x + y + 6z = 46$

34. The following data gives the income of individuals in two cities. Draw the Lorenz curves and comment on the distribution of income in both places.

Income ('000Rs.)	10	20	40	50	80
City A (No. of Persons In '000)	8	7	5	3	2
City B (No. of Persons In '000)	15	6	2	1	1

35. Calculate the Karl Pearson coefficient of correlation for the following data

X	12	20	15	22	18	24	20	12	15	22
Y	30	35	28	36	29	39	30	25	30	38

36. Compare Range, Quartile Deviation, Mean Deviation and Standard Deviation explaining their merits and demerits.

(2 x 12 = 24 marks)